REPORT

ON THE

AGRI-HORTICULTURAL GARDENS,

LAHORE,

FOR

1883-84.

LAHORE:

PRINTED AT THE PUNJAB GOVERNMENT PRESS,

1884.

Proceedings of His Honor the Lieutenant-Governor of the Punjab in the Revenue (Agricultural) Department, No. 251, dated 17th July 1884.

READ—

Report of the Agri-Horticultural Gardens, Lahore, for the year 1883-84.

REMARKS.—During the year the impending changes which were noticed in the review of the last report have been duly carried out. The gardens have passed from the control of the Agri-Horticultural Society, and are now known as the Government Agri-Horticultural Gardens, Lahore, and are managed by a Committee composed of *ex-officio* and nominated members. Subscriptions are received as hitherto, but they give subscribers no privileges which are not enjoyed by the public, and are treated merely as payments in advance for seeds or produce to be supplied.

Together with this change in the management of the gardens there has been a change in the Superintendent, and the removal of Mr. Spooner, who has been succeeded by Mr. Hein, accounts in a great measure for the briefness of the present report.

2. The income during 1883-84 was Rs. 13,103-11-10 as against Rs. 12,525-2-9 in the previous year. The increase is due chiefly to the larger sales of garden produce. The subscriptions from District Committees will, it is hoped, increase; but, as was anticipated, private subscriptions have fallen off owing to the fact that they are now regarded as payments in advance merely. The increasing demand in Lahore for vegetable produce will, however, it is hoped, considerably improve the financial position of the gardens.

3. The expenditure was Rs. 21,795 as against Rs. 22,532 in 1882-83. The net cost to Government was therefore Rs. 8,692, or slightly less than the annual grant-in-aid of Rs. 9,000. It is as yet too early to say whether the Committee of Management will be able hereafter to improve greatly upon this result; but it seems highly probable, as pointed out in the report, that if greater attention is paid to the seed department, and the demand for vegetable produce goes on increasing, the income of the gardens will rise materially.

4. Progress was made in the distribution of plants and seeds as compared with the operations of the previous year. Great care will be taken in future to secure that the seeds sent out by the gardens are to be depended on, and with this view a new system of storing has been introduced. It is suggested that the Lahore gardens seed does not always receive a fair trial, and that in many cases failure is due rather to the ignorance of those who take the seed than to any inherent badness of the seed itself.

To remedy this ignorance and to supply a want which is generally experienced by horticulturists and others in the Province, the Honorary Secretary is bringing out a Catalogue Raisonnée of all the products available in the gardens, with simple instructions as to their sowing, cultivation, &c., and this work will doubtless prove of great practical value hereafter.

5. Mr. Duthie, Superintendent of the Botanical Gardens, Saháranpur, paid two visits to the Lahore gardens during the year with the purpose of advising upon their general improvement. The appearance of the gardens has already improved greatly, and the time has now arrived when it is possible to retain none but well-grown trees, and specimens of the rarer and better class of timber, such as Eucalyptus, the Dún, the Ficus and Terminalias.

Arrangements have been made, as suggested in last year's review, to send the more tender plants, which cannot live during the hot weather at Lahore, to the Anandale gardens at Simla, and the small garden at Dharmsála, which was previously utilised for this purpose, has now been given back to the District authorities.

6. Contributions have been received during the year from Mr. Barton-Groves of Rangoon, from the Botanical gardens of Howrah and Saháranpur and from Mr. Cameron of Bangalore. Among these the fruit trees from Saháranpur may be regarded as an especially valuable addition to the gardens.

7. Order is being gradually introduced into the nurseries, and the rose and stone-fruit nurseries are already in a fair condition.

8. The means are wanting in the Lahore gardens to carry out good agricultural trials with crops as distinguished from mere trials of economic plants. As regards the wheat and barley experiments, the late sowing may have contributed largely to the failure in results.

The Early Amber cane is pronounced to be equal but not superior to jowar as a fodder plant, but as a sugar-producing plant it is not regarded as a success.

Guinie grass, which has hitherto not been grown in the gardens, will be useful as a fodder plant. Nankeen cotton has been sown with success: the Khaki cotton seed was received too late to allow of a fair trial.

The propagation of the various species of the Eucalyptus is attended with good results, and there is a considerable demand for young plants.

The Broussonetia papyrifera, which grows well and seeds freely in the Lahore gardens, is mentioned as producing an abundance of paper fibre.

9. During the year four ensilage experiments were carried out.

Two Silos filled on 21st August with Chari and Sorghum chopped up were opened at the end of three months. The fodder was found to present the usual appearance of good ensilage, and the garden bullocks eat it readily.

On the 3rd December 1883 a third and larger pit was filled with Indian corn, and another with a mixture of turnip tops, Indian corn and bhúsa. These have not yet been opened.

It would have been more satisfactory if details had been given as to the cost and method of digging the pits, and perhaps the experiments would have been more useful and practical if grass fodders and fodders of a less saccharine nature than Sorghum had been used, and the Silos had remained closed for a longer period than three months. These points will doubtless be considered when further experiments are undertaken.

10. The report, on the whole, is satisfactory, and the continuity of management which will now be possible under the new constitution of the gardens, may be expected to render them of great practical use to the Province at large.

11. The thanks of Government are due to the Committee of Management and in particular to the Honorary Secretary.

ORDER.—Ordered that the Report be distributed as usual with the Review, and that the Review be published in the *Punjab Government Gazette*.

By order of the Hon'ble the Lieutenant-Governor,

H. C. FANSHAWE,

Offg. Junior Secretary to Government, Punjab.

Punjab Government Press, Lahore—31.7-84—300.

REPORT

ON THE

AGRI-HORTICUTURAL GARDENS
LAHORE,

FOR

1883-84.

No. 26 A. H. G., dated Lahore, 27th June 1884.

From—Lieut.-Col. E. G. Wace, Commissioner of Settlements and Agriculture, Punjab,

To—The Offg. Junior Secretary to Government, Punjab.

Agri-Horticultural Gardens Report for 1883-84.

I HAVE the honor to submit the Report of the Agri-Horticultural Gardens, Lahore, for the year 1883-84.

2. Up to the commencement of the year under report, the garden was in charge of the Agri-Horticultural Society. But as the Society had for all practical purposes ceased to exist for some time past, the Government in May 1883 took over the future management of the gardens. The executive agency now is a Committee, as per margin, to whom Government have continued the same powers as were exercised by the Managing Committee of the defunct Society. The present non-official members of the Committee are—

Changes in management.

Government's No. 146, dated 20th May 1883.

President:

1. Commissioner of Settlements and Agriculture.

Members:

2. Deputy Commissioner of Lahore.
3. One or more medical officers, selected for their knowledge of botany and gardening
4. A Native member of the Municipal Committee.
5. Two or three other residents of Lahore.

Mr. Baden-Powell, C.S., C.I.E.
Mr. Rawlins, C.S.
Dr. Burton Brown.
Dr. Center.
Dr. Coates.
Nawáb Abdul Majíd Khán.

Mr. Baden-Powell has continued to act as Honorary Secretary.

3. Mr. E. Spooner, who had been Superintendent of the Gardens since the year 1875, was removed at the beginning of the current year under circumstances which were specially reported to Government, and to which further allusion is not necessary. During the year under report his management of the gardens was not satisfactory, and owing to this and to his departure for England it is not possible to submit more than the briefest report on the results of the past year. His place has been filled by Mr. Hein, a retired Conductor of the Commissariat Department, who at the date of his appointment was engaged in a gardening business at Simla.

The Superintendent.

4. I append a statement (1) of income, (2) of expenditure, and (3) of plants and seeds issued. This last statement is as complete as can be furnished from the books of the past year as they exist. When Mr. Hein took charge of the gardens in May 1884, I gave him complete instructions showing the accounts and books required of him. I have made these very simple, and a new accountant has been appointed whose whole time will be given to the work.

Statements appended.

5. As regards income, the results of the past year are not unfavourable. Omitting the grants from Imperial and Provincial Revenues, the income was Rs. 13,103 as compared with Rs. 12,525 in the previous year. The subscriptions from districts and private members fell off; but this was more than balanced by the increased sale of garden produce.

Income.

	1882-83.	1883-84.
	Rs.	Rs.
Subscriptions	6,726	5,880
Garden produce	5,296	6,510
Advances and miscellaneous ...	503	713
Total ...	12,525	13,103

Subscriptions.

6. The subscriptions are at present :—

		Rs.
Lahore Municipality	...	1,542
District Committees and other official bodies	...	3,600
Private subscribers	...	738
Total	...	5,880

The first two items will stand and we hope increase, for the support of various committees of the Province is of much value. But the private subscriptions are likely to cease. Up to the year under report, subscribers, official and private, had certain privileges entitling them to certain supplies free and other supplies at half price. And when the accounts were examined before Government tookover the management, it was found that these privileges probably cost the gardens more than the subscriptions brought in. Moreover, the results were very unequal: some subscribers obtained much more than the value of their subscriptions and others much less. The old system was consequently given up, and in place thereof every subscription received is placed to the credit of the subscriber, and he is entitled to take from the gardens an equivalent value at the same rates as are charged to non-subscribers. The result of the change is that it is still a convenience to official bodies to pay up a subscription once a year, against which the supplies required at various times can be charged; but few private persons can be interested in future in keeping an account of this kind with the gardens.

Expenditure and net cost of gardens.

7. The expenditure is stated to have been Rs. 21,795, as compared with Rs. 22,532 in the previous year. I shall be better able to report on this part of the subject 12 months hence. Its main heads are—

		Rs.
Superintendent ...	...	3,900
Establishment ...	...	8,986
Purchase of seeds and plants	...	4,401
Advances ...	...	1,303
Other items ...	...	3,205
Total	...	21,795

Deducting the income, Rs. 13,103, the net cost of the gardens to Government was Rs. 8,692; that is to say, the income is to the cost of management as 10 to 16. Seeing that the garden returns full value for all subscriptions received, this is not in itself otherwise than a fair result. It is too soon to say whether it can be improved.

Plants and seeds issued. Compare paragraph 63 of last report.

8. The main items of plants and seeds distributed in this and the previous years compare as follows :—

	1882-83.	1883-84.
Forest and ornamental trees	6,346	8,616
Fruit trees	5,042	5,435
Shrubs and creeping plants	6,285	7,498
Tree seeds—Packets	145	533
Rose plants	2,210	1,715
Seeds imported—Parcels	190	164
Pea seeds—lbs.	523	444
Vegetable, flower and grass seeds—Oz packets	17,877	10,761

There can, I think, be no doubt that the work done in the distribution of plants and seeds is capable of improvement. I recently asked each Deputy Commissioner to report on the quality of the seeds received during the past

year, and the replies brought in many complaints. The new Superintendent will give particular attention to this matter. I have also told him to do all he can to promote the distribution of good seed among the market gardeners of Lahore. If the seeds sent out by the gardens were really reliable the distribution would be much larger than it is. At the same time the difficulties connected with the supply of good seed should be recognized, as also the circumstance that many of the garderners in whose hands seeds are placed are ignorant men and spoil it by bad cultivation, and that a considerable percentage of reported failures result from this circumstance and from bad storage of the seed, &c., before sowing. It is certainly very frequently the case that seed which is found to germinate well at Lahore is reported to have failed elsewhere. Unless seed is properly sown and properly treated when sown, failure is almost certain. At the same time careful attention is being given to the storing of seed in the gardens, and a new system of storing in *tins* is being tried. It should also be borne in mind that a large proportion of the seed sent out is sent, *as it comes from Europe*, unopened, and that therefore the garden establishment is not in any way responsible for its success or failure.

Catalogue *raisonné* of all the products in the gardens.

9. The Honorary Secretary, with the assistance of the Superintendent, is bringing out a catalogue *raisonné* of all the products available in the gardens, with simple instructions as to sowing, cultivation, &c The book will be a small one; and great pains have been spent in making it so simple that it shall be a good guide to persons who have little experience in gardening. It is almost complete, and will issue as soon as possible. It is delayed only by the difficulty in writing out *descriptions* of some hundreds of plants. Hitherto the catalogues, as regards pot plants and shrubs especially, have consisted of strings of *Latin names* which convey no meaning whatever to the ordinary purchaser. What is wanted is to add to each a brief description of the style of plant, its flower, and the positions in garden, park or verandah, &c., that it is suited to occupy. As soon as this work is done, the printing will be the only element of delay in the issue.

General working and condition of the gardens.

10. As regards the general working and condition of the gardens the following brief remarks may be made :—

Appearance.

In spite of all difficulties, the *appearance* of the gardens is much improved. Unsightly trees have been removed, and this work will be steadily pursued. The time has now come when the entire enclosed space should contain nothing but exceptionally well grown specimens of the common trees, and should be stocked also with the better class of trees, *Eucalyptus*, *tun*, the Dún—or white—siris, the graceful *Terminalias*, *Ficus*, *Poinciana*, and many others.

Conservatory.

The *conservatory* is in a leaky condition, which is chronic. Yet a good conservatory adds enormously not only to the attractiveness of the gardens, but to our cultural resources.

As suggested in paragraph 7 of the Government orders on last year's report we are now in communication with the Annandale Gardens, and have arranged to send our tender plants, geraniums, &c., there for the hot season. The small garden at Dharmsála, which was only a source of expense, without much corresponding benefit, has been given back to the District authorities and the establishment discharged.

Drainage.

The *drainage* of the gardens, especially along the south-west side, gives great anxiety. The whole matter was reported last November, and as yet nothing has been done. The mere widening of the culvert across the road is quite insufficient as a remedy.

Contributions.

A considerable number of *contributions* were received. We have to thank Mr. Barton-Groves of Rangoon for a collection of 57 orchids belonging to 12 species, which are a great addition to the conservatory. The Botanical gardens of Howrah and Saháranpur have helped us as usual. Mr. Cameron of Bangalore sent us a number of seeds. Many of these would not stand our dry hot climate,

but we obtained more than 250 plants of the beautiful *Grevillea* from this source. From Saháranpur we had valuable supplies of fruit trees,* and several *Sterculias* and other ornamental trees and shrubs.

Nurseries.

The *nurseries* are gradually getting into order. The work is necessarily slow, as reforms can only be made as the stock is sold off. But the stone fruit nursery is already in order, and the rose nursery is progressing well. The *pot plant* nursery has been completely reorganized also.

Experiments.

As regards *experiments*, we have really not the means for carrying out good *agricultural* trials *with crops* as distinguished from mere trials of economic plants or even cotton, which we can undertake well enough. Our experiments in wheats and barleys were unsatisfactory, but chiefly owing to the late date on which seed was received. Sowing on the 6th December cannot be successful. The "Early Amber Cane" suffered from floods, but what succeeded was useful for fodder. We have distributed seed to various districts, and the opinion is quite general that as a fodder plant it is good, though not superior to jowár, and as a sugar-producer quite inferior.

We have commenced the cultivation of *guinea* grass, which was before wanting to our collection; this is a fodder plant that will be a very useful addition. The *Nankeen cotton* has been sown with success. The "*Khaki*" cotton seed was unfortunately received so late that, though the plants grew, they formed no *bolls*. Among curious and useful plants it may be mentioned that the cultivation of several species of *Eucalyptus* continues successful, and there is a considerable demand for young trees sent out in pots.

Withania Coagulans (Puneeria) continues to live, and we have a stock of some 200 plants; but their surviving the rains is doubtful.

In this connection it should be mentioned that *Broussonettia papyrifera*, which is no doubt the paper-fibre shrub most worth cultivating, grows freely in the gardens and seeds well. We could at a short notice supply a considerable number of plants if a demand arose.

Ensilage.

We made some plain *ensilage* pits, simply dug in the highest and best drained ground we could command. The *mounds* were at first suggested, but the brick-rubbish, of which they are composed, does not admit of pit digging. Two "silos" were filled on 21st August with "churree" and sorghum, both chopped and whole. These were opened at the end of three months. The usual moist fermenting smell resembling malt was observed; the garden bullocks eat the fodder readily. A third and larger pit was filled on the 3rd December 1883 with Indian corn, but when the cobs were still milky. Another was filled with a mixture of turnip tops, Indian corn and "bhúsa" (cut up together). These have not yet been opened.

In the acclimatizing department 1,348 lbs. of peas were raised, 82 lbs. of various hot weather vegetable seed, 122 lbs. of flower seed, and 55½ lbs. of the hardier kinds of European flowers for cold season sowing.

Conclusion.

11. In conclusion, I wish to say that we have had some special difficulties to contend with during the first year of the new management. But the working of the institution is now on a sounder basis than before; and I hope we may succeed in extending its practical utility.

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* 12	English apple trees	...	...	...	... in 3	varieties.
12	Apricot	...	...	...	... in 2	„
12	Citron	...	...	...	... in 2	„
6	*Feronia elephantum* (wood-apple).					
12	Artocarpus (Jack fruit)	...	...	...	... in 2	„
6	Leetchee (seedlings).					
6	Peach	...	...	...	... in 2	„
18	Pear	...	...	...	... in 3	„
36	Plum	...	...	...	... in 6	„
6	Rose apple.					
6	Diospyros melanoxylon.					
14	Vines	...	...	...	... in 2	„
6	Wamp.					
250	Ornamental trees and shrubs	...	...	...	... in 59	„
402	... Total					

I.

Comprative Statement showing Income from each source for the years 1882-83 *&* 1883-84.

	Amounts realized.					
	1882-83.			1883-84.		
	Rs.	A.	P.	Rs.	A.	P.
Subscriptions from Districts ...	4,128	0	0	3,480	0	0
Lahore Municipal Committee grant for Lawrence Hall Garden	1,542	0	0	1,542	0	0
Indus Valley State Railway subscription ...	120	0	0	120	0	0
Subscriptions, members or private individuals ...	936	0	0	738	0	0
Advances recovered ...	488	3	0	707	9	3
Garden produce ...	5,296	1	9	6,509	15	1
Miscellaneous ...	14	14	0	6	3	6
Total ...	12,525	2	9	13,103	11	10

II.

Comparative Statement showing Expenditure incurred during the years 1882-83 *&* 1883-84

	Expenditure incurred.					
	1882-83.			1883-84.		
Particulars of Expenditure, Establishment Permanent.	Rs.	A.	P.	Rs.	A.	P.
1.—Salary of Superintendent ...	3,900	0	0	3,900	0	0
2.— „ of Accountant (and Clerk for 1883-84) ...	840	0	0	1,680	0	0
2.— „ of Lahore establishment. Salary of Clerk at Rs. 70 per mensem included for 1882-83 ...	7,873	8	3	6,708	11	11
2.— „ of Kángra establishment ...	175	10	0	...		
2.— „ of School establishment ...	240	0	0	240	0	0
3.—Extra Establishment—						
Manual (Coolies) ...	556	12	9	243	7	9
Cattle, feed, hire and purchase of ...	119	8	3	113	9	9
4.—Plants and Seeds—						
Purchase ...	3,322	10	1	4,137	2	2
Carriage and exchange ...	963	6	0	264	1	6
5.—Canal charges ...	687	10	1	267	9	6
6.—Stores—						
Pots and manures ...	755	4	3	924	2	10
Other stores ...	165	15	6	175	11	6
7.—Prizes at shows ...	162	8	0	...		
8.—Lands and buildings ...	280	4	6	223	9	9
9.—Tools and Implements—						
Purchase ...	39	6	0	91	12	0
Repairs ...	26	7	0	19	9	0
10.—Advances ...	700	7	0	1,303	2	6
11.—Books, Periodicals, &c. ...	94	15	0	5	8	0
12.—Printing, Stamps and Stationery ...	587	8	0	630	15	6
13.—Expenditure not otherwise provided for ...	1,040	4	6	865	7	11
Total ...	22,532	1	2	21,794	9	7

III.

Statement showing the No. of Forest, Fruit and Ornamental Trees, Shrubs, Seeds, &c., issued during 1883-84.

Items issued.		To official bodies.	To private individuals.	Total.
Forest and ornamental trees	No.	6,610	2,006	8,616
Fruit trees	,,	3,508	1,927	5,435
Shrubs and climbing plants	,,	5,730	1,768	7,498
Herbaceous plants and annuals	,,	1,414	410	1,824
Miscellaneous plants	,,	206	77	283
Rose plants	,,	897	818	1,715
Bulbs and Tubers	,,	197	57	254
Tree seeds	Ounce packets	376	157	533
Pea seeds	lbs.	302	142	444
Grass and Lucerne seeds	Oz. packets	240	750	990
Vegetable seed, imported and acclimatised	...	2,091	3,107	5,198
Flower seeds	...	1,779	2,794	4,573
Seeds imported	Parcels No.	126	38	164
	Containing Packets ...	5,556	950	6,506
Cuttings, Miscelleneous	No.	384	958	1,342
Indian corn, imported	lbs.	2	5	7
Sorghum	,,	6	2	8
Wheat	Maunds	...	1	1

N. B.—Among the trees, shrubs, &c., 7,867 were supplied in pots.

Punjab Government Press, Lahore—31-7-84—300.